

Active Traffic Management

Paula J. Hammond, P.E.
Secretary

David L. Dye
Deputy Secretary

Steve Reinmuth
Chief of Staff

Craig Stone, P.E.
Administrator
Urban Corridors Office

Patty Rubstello, P.E.
Tolling and Systems Development Engineer
Urban Corridors Office

Washington State Transportation Commission
October 22, 2008



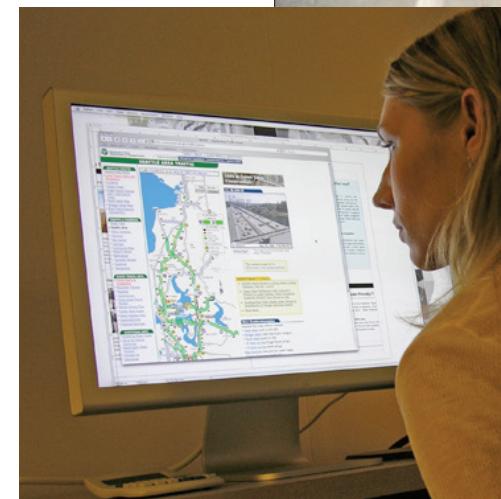
**Washington State
Department of Transportation**

Building Smarter Roadways

High-tech tools for a better commute

Traffic technology overview

- Leading the way
- Operating efficiently
- Today's traffic technology; Smarter roadways tomorrow
- European model
- Feasibility study
 - Planned projects
 - SR 520 & I-90 high-tech traffic opportunities
- 24/7 operational commitment



Leading The Way

WSDOT is a nationwide expert on building smarter roadways through technology - also called active traffic management - to keep drivers informed and to move more traffic, safely and efficiently.



Operating Efficiently

*Getting the most out of
the roadways we have*

Using smarter roadway technology to improve traffic flow and reduce delay is a key element of WSDOT's three-point plan for reducing congestion.

This ongoing strategy includes adding new road space where it makes the most sense, offering travelers and commuters more choices to reduce traffic demand, and making the state's existing highways as efficient as possible.



Today's Traffic Technology

Real-time driver information -
driver information on the go, traffic cameras,
traffic centers, online traffic maps.



Ramp meters -
stop-and-go traffic signals that automatically
control the frequency of vehicles entering the
flow of traffic on the freeway.



Clearing roads; helping drivers -
WSDOT has one of the world's largest
incident response programs.



Optimizing signal timing -
saving drivers thousands of hours each year.

Using HOV lanes more efficiently –
high occupancy toll (HOT) lanes.

Smart Roadways Tomorrow

Build off current traffic technology -

Use the successes we have to build smarter roadways for the future.

Install overhead speed and lane signs -

Overhead signs alert drivers to slow down or move lanes because of collisions and backups upstream; allow for better emergency access.

Allow drivers to use shoulders -

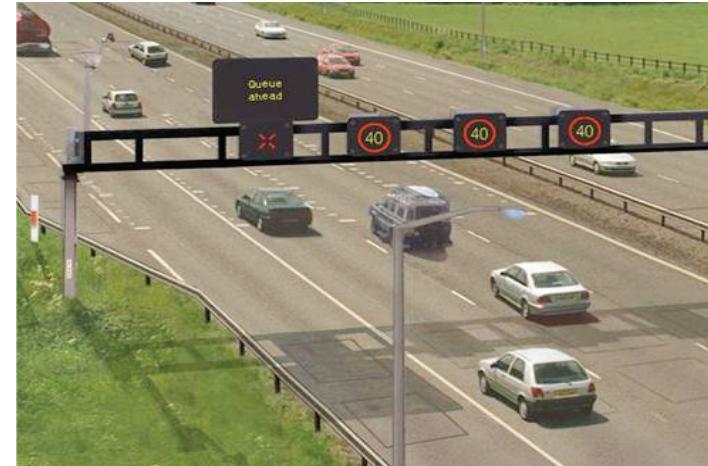
Open shoulders as a travel lane during peak commute hours where safe to do so.

Build in emergency pull off areas -

Gives drivers somewhere to pull off for vehicle breakdowns or collisions - allowing room to pull over helps keep traffic moving in the other lanes.

Give drivers on-the-road information -

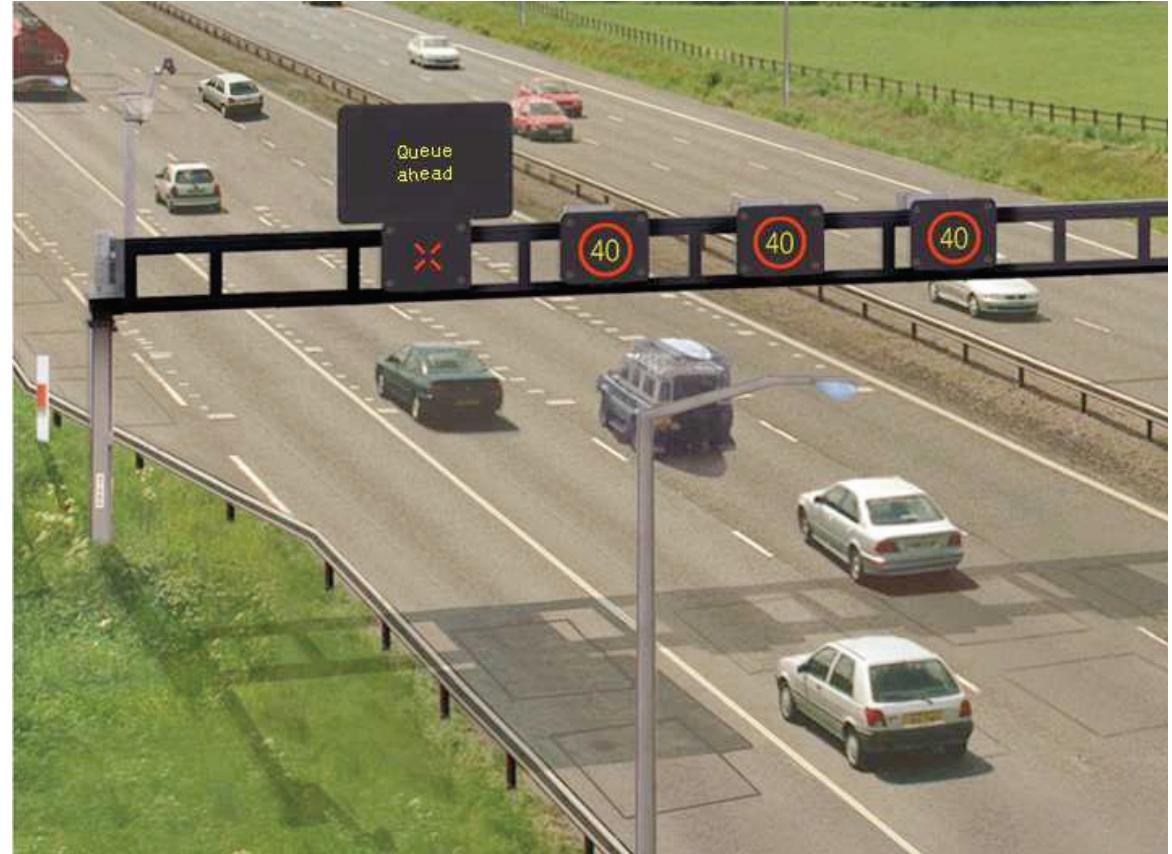
Electronic signs allow drivers to make better reroute decisions.



European Model

Signs alert drivers to reduce their speeds approaching areas of congestion, collisions, or during special events.

Similar signs in Europe have decreased congestion-related collisions by 30% and increase traffic flow by 10%.



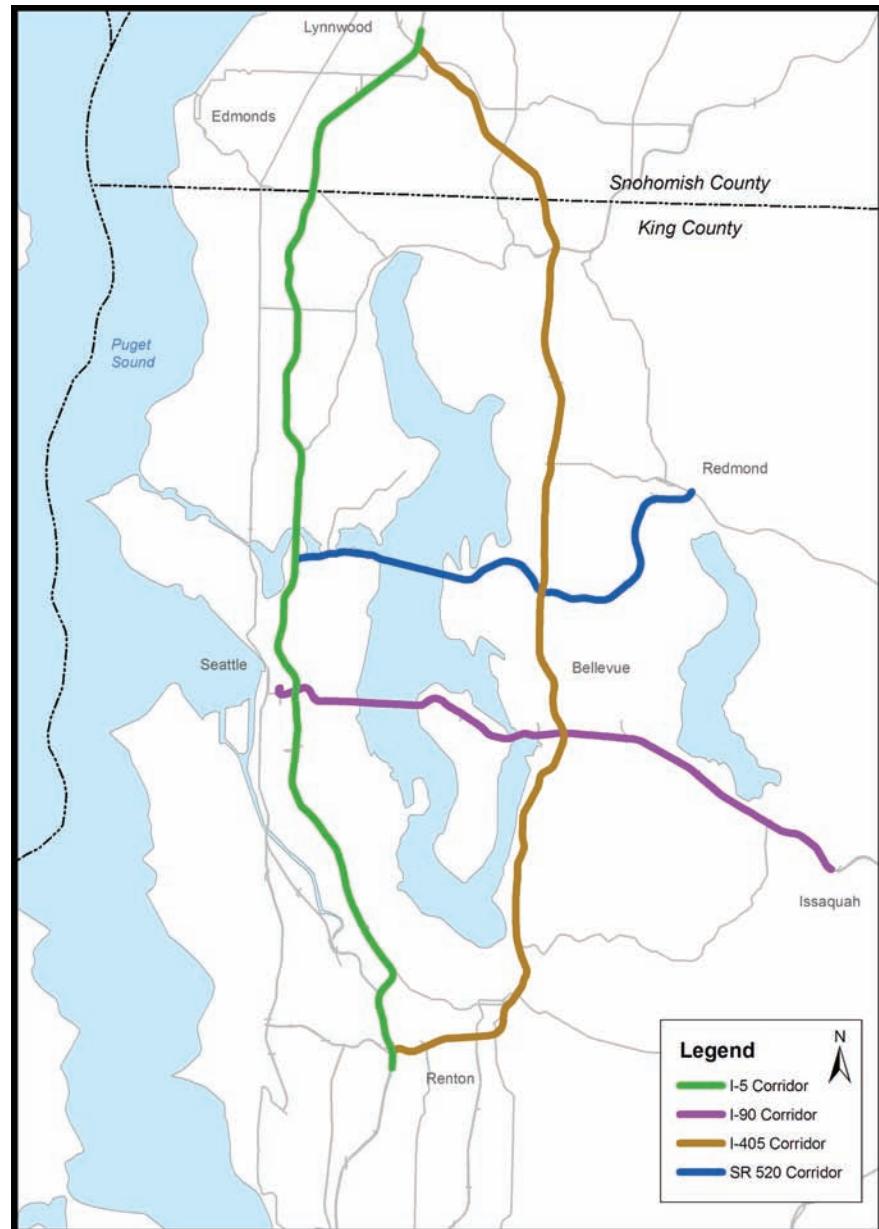
European Model



Feasibility Study

Based on what we learned overseas, we evaluated our major transportation corridors for the best applications of active traffic management techniques to maximize capacity and increase safety on critical freeway corridors.

What we found was all of our major corridors are prime candidates for active traffic management and have planned several projects.



Travel Time Signs

WSDOT will be installing these electronic travel time signs on I-5 next year. These signs make it possible for drivers to have real-time travel information that updates with changing traffic conditions.



Northbound I-5 drivers headed to Bellevue can make better travel decisions on the road.

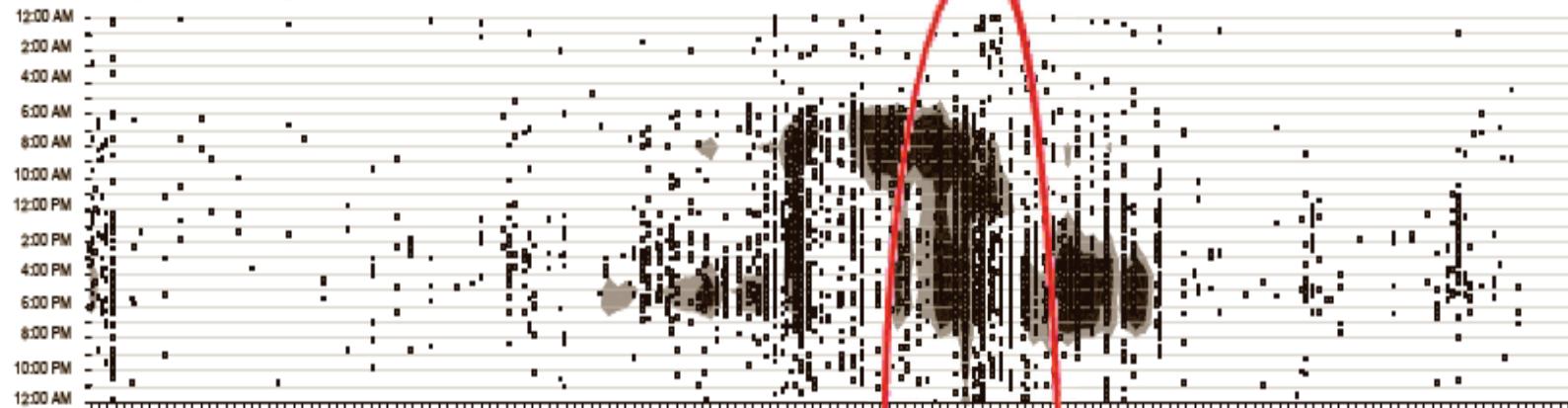


Downtown I-5 drivers can decide on a quicker commute when heading to Seattle.

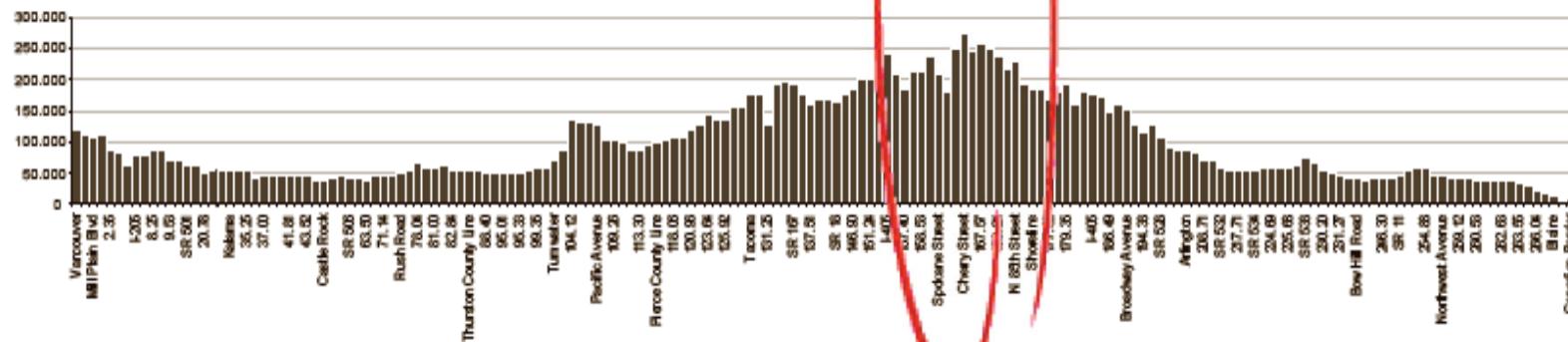
I-5 Collisions and Congestion

Northbound Interstate 5: 2005 Rear End Collisions and Congestion Occurrences

Collisions (squares) and Congestion (shaded areas) by Time of Day and Location



2005 Annual Average Daily Traffic, Hours of Delay by Milepost (correlates with graph above)

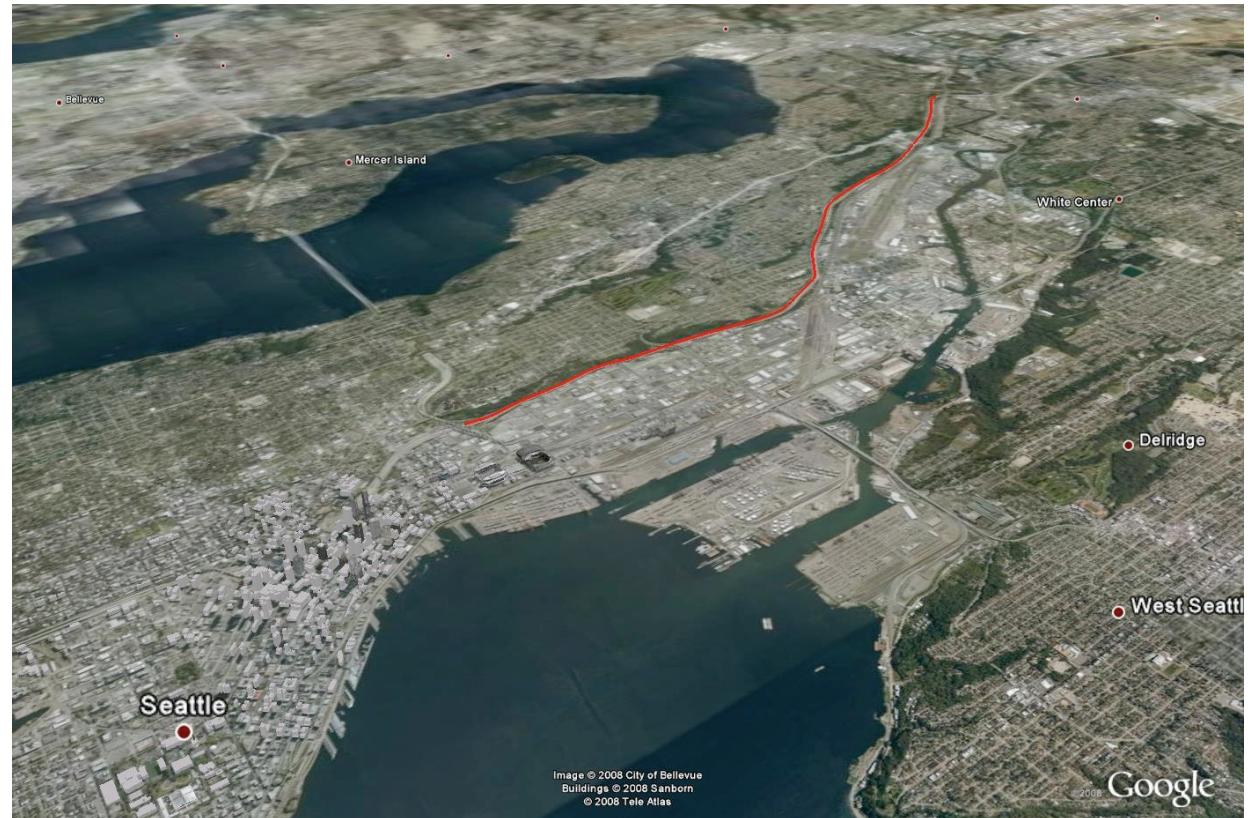


Estimated 2005 General Purpose Lane Performance

* Federal Law Title 23 U.S. Code Section 409 prohibits the discovery or admission into evidence of this data in Federal or State Court proceedings or consideration in any action for damages.

I-5 Active Traffic Management

- Implementing:
 - Variable Speed Limit
 - Queue Warning
 - Lane Control

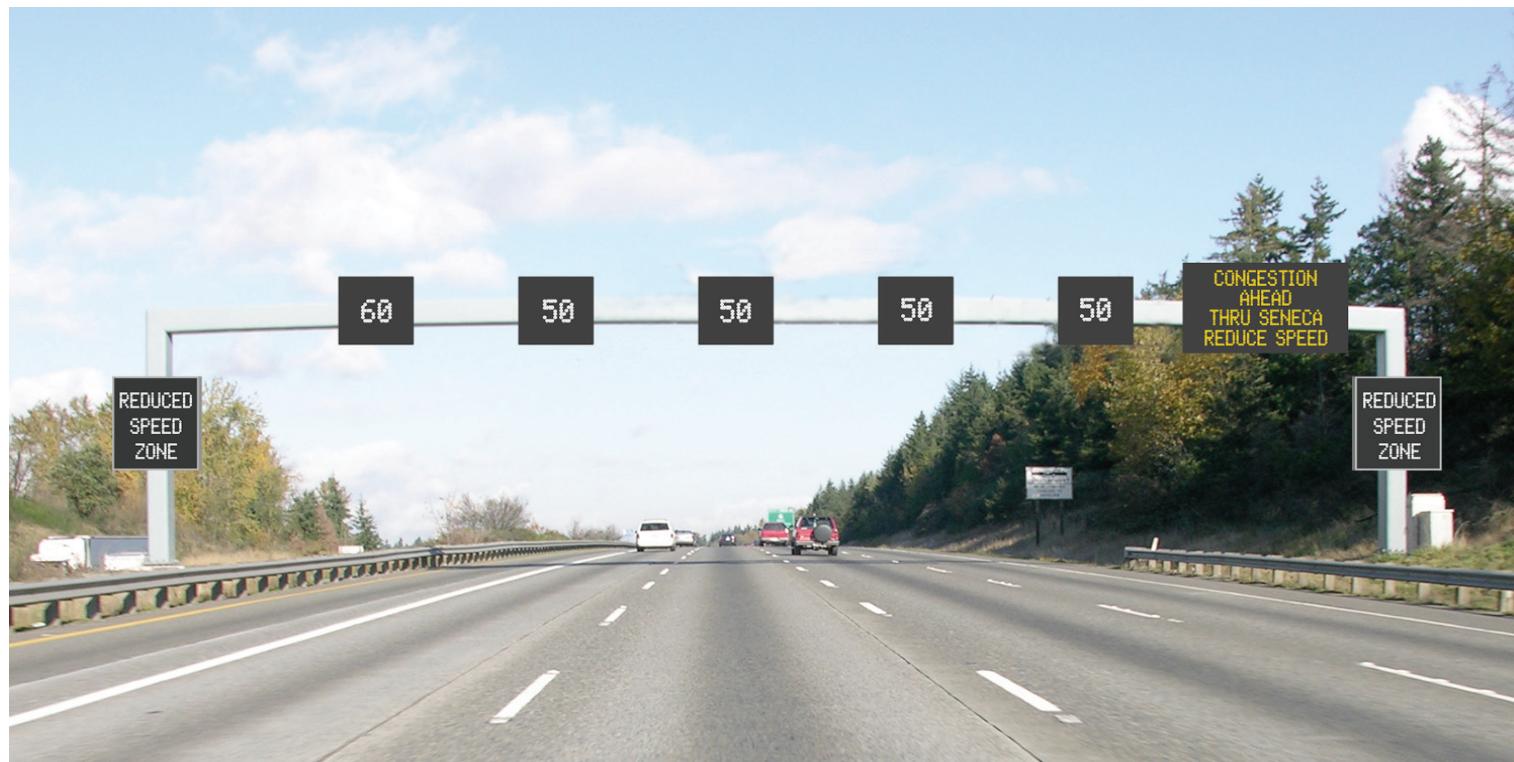


Northbound I-5 - Collision Concentration



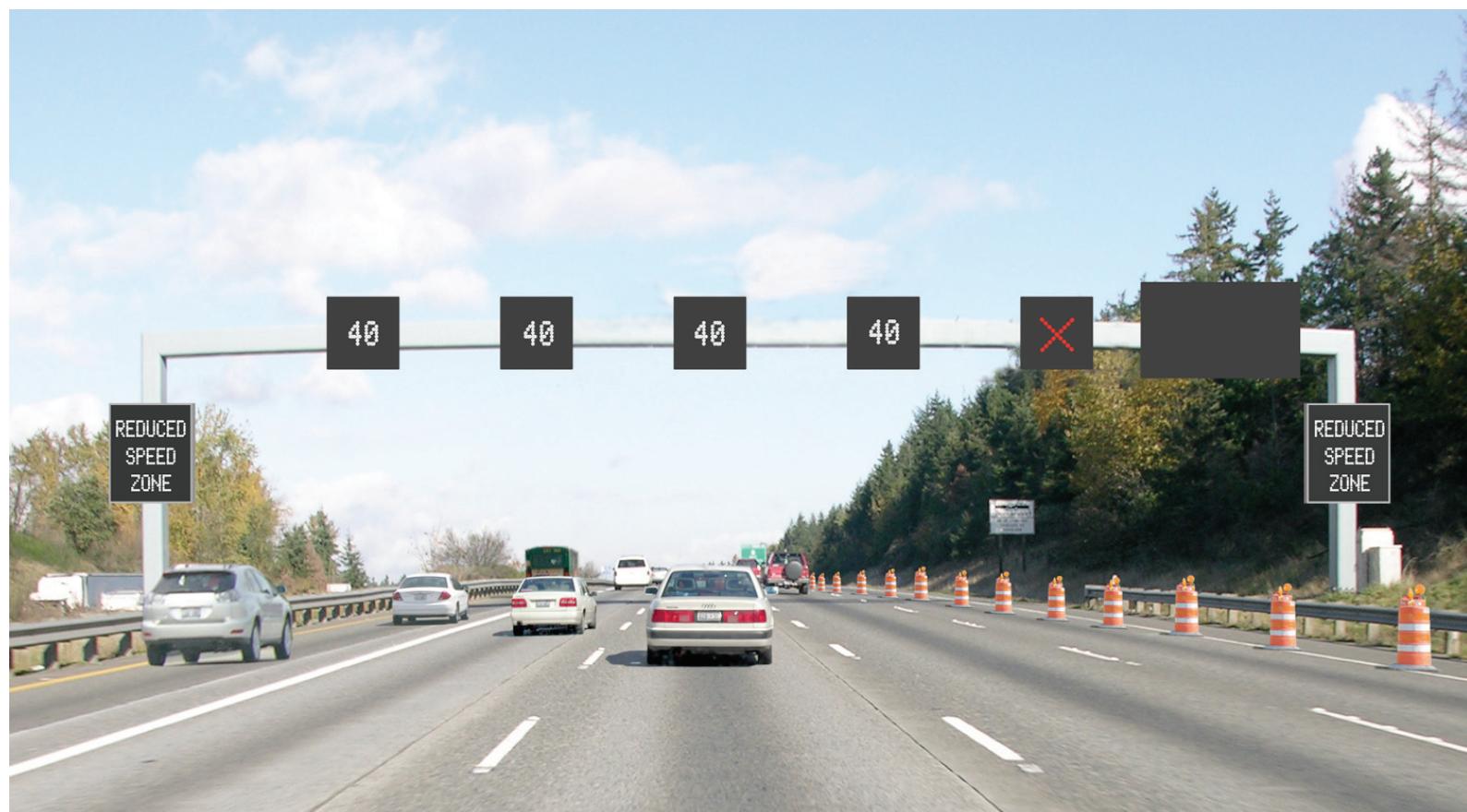
Variable Speed Limit and Queue Warning Signs

There were 542 rear-end collisions on this section of I-5 in 2006 alone, 481 of these collisions were between the hours of 5AM and 8PM. Forecasted benefits are 30% fewer injury collisions and 15% fewer property damage only collisions. All of this results in less delay due to incidents on the roadway, up to 10% more traffic moved.

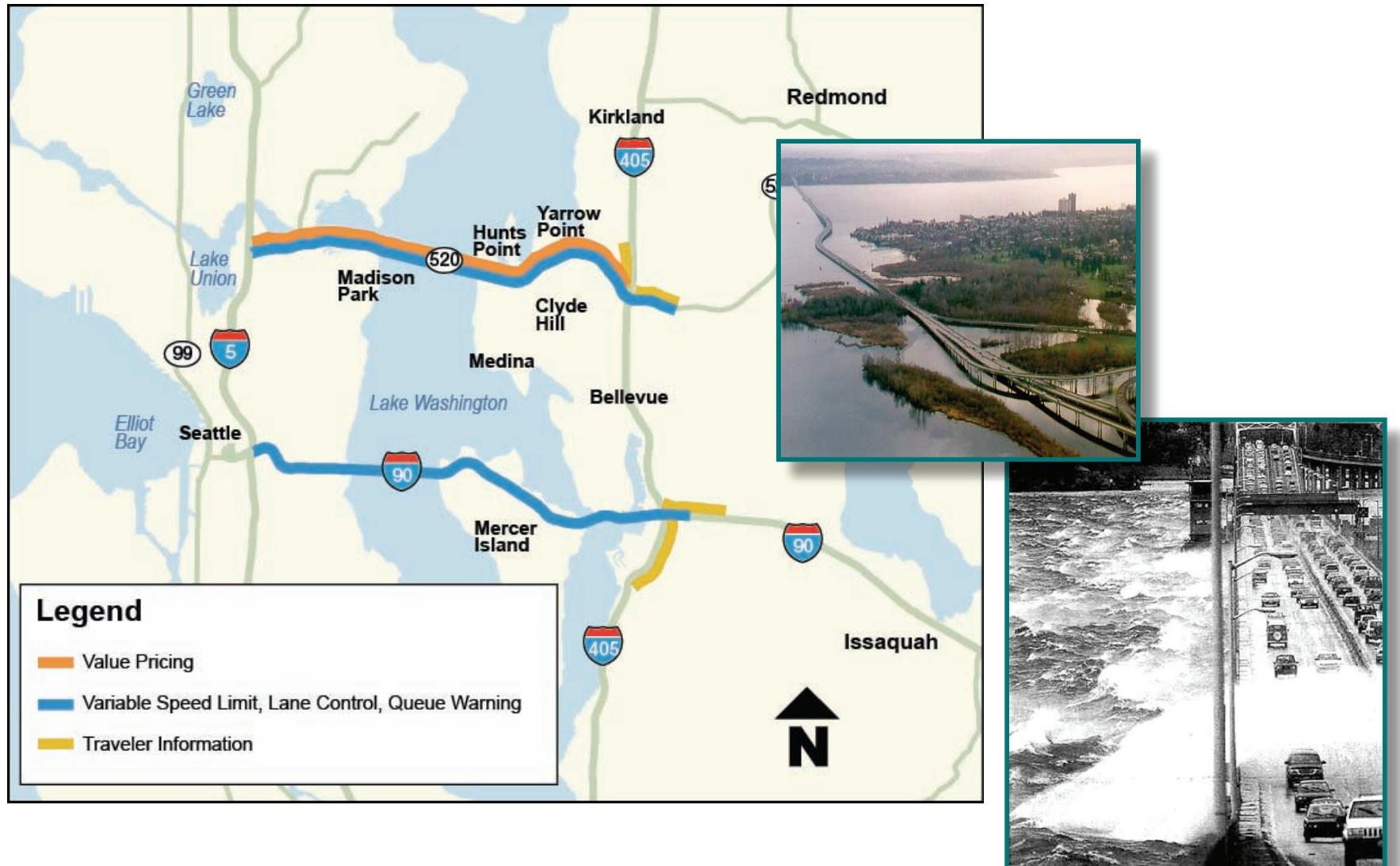


Lane Control Signs – I-5

- Dual purpose signing.
- Assist drivers when there is an accident or a work zone ahead.



The Lake Washington Urban Partnership



24/7 Operational Commitment

We are entering a new era where we will need to make the commitment to staff, maintain, upgrade and merge together these active traffic management tools and their components.



For more information on Active Traffic Management (ATM),
please contact:

Craig J. Stone, P.E.
Administrator
Urban Corridors Office
206.464.1222
stonec@wsdot.wa.gov

Patty Rubstello, P.E.
Tolling & Systems
Development Engineer
206.464.1299
rubstep@wsdot.wa.gov

<http://www.wsdot.wa.gov/operations/tolling>

<http://www.wsdot.wa.gov/congestion/technology>

